

STATEMENT OF THE CLAIMS

1. (currently amended) A surgical clip for use on a patient, comprising:

a) a first arm portion having a tip, ~~and an~~ a first opposite end, a first inwardly facing surface, and a first outwardly facing surface, said first arm portion defining a thickness between said first inwardly facing surface and said first outwardly facing surface, a first length between said tip and said first opposite end, and a first width which is transverse to said first length and said thickness of said first arm portion;

b) a second arm portion having a first end, ~~and an~~ a second opposite end, a second inwardly facing surface, and a second outwardly facing surface, said second arm portion defining a thickness between said second inwardly facing surface and said second outwardly facing surface, a second length between said first and second ends of said second arm portion, and a second width which is transverse to said second length and said thickness of said second arm portion;

c) a retainer extending from said first end of said second arm portion, said retainer ~~extending beyond said tip of said first arm portion and substantially parallel to said first arm portion and being deformably bendable and~~ having a width which is identical to and parallel with said second width of said second arm portion, and a tissue piercing tip; and

d) a bridge portion connecting said opposite ends of said first and second arm portions, wherein said first and second arm portions and said bridge portion comprise a single continuous piece of material, and

wherein

(i) said clip is configurable to an original first configuration in which said retainer extends beyond said tip of said first arm portion substantially parallel to said first and second arm portions,

(ii) said clip is configurable to an applied second configuration in which said tissue piercing tip of said retainer is disposed about or adjacent said tip of said first arm portion,

(iii) said retainer is adapted to plastically deform from its orientation in said original first configuration to its orientation in said applied second configuration, and

(iv) said first and second arm portions and said bridge portion are adapted to maintain a generally U-shaped configuration in which said bridge portion extends through at least 90 degrees and said first and second arm portions are substantially parallel to each other in said original first and applied second configurations, and while said retainer is plastically deformed between said original first and applied second configurations before, during, and after application of said clip to tissue of the patient, and said retainer is adapted to be plastically deformed toward said first arm portion and about or adjacent said tip of said first arm portion.

2. (original) A surgical clip according to claim 1, wherein:

said first and second arm portions and said bridge portion are substantially stiff.

3. (original) A surgical clip according to claim 1, wherein:

said clip is made from titanium or a titanium alloy.

4. (original) A surgical clip according to claim 1, wherein:

said clip is made from one of stainless steel, tantalum, platinum, a radiopaque material, a nickel-titanium alloy, a martensitic alloy, and a plastic.

5. (currently amended) A surgical clip for use on a patient, comprising:

a) a first arm portion having a tip end provided with one of a hook portion and a catch portion, and an opposite end;

b) a second arm portion having a first end and an opposite end;

c) a retainer extending from said first end and ~~beyond said tip end of said first arm portion and substantially parallel to said second arm portion, said retainer being plastically deformable and~~ having the other of said hook portion and said catch portion; and

d) a bridge portion connecting said opposite ends of said first and second arm portions, wherein said first and second arm portions and said bridge portion comprise a single continuous piece of material and

wherein,

(i) said clip is configurable to an original first configuration in which said retainer extends beyond said tip end of said first arm portion substantially parallel to said first and second arm portions,

(ii) said clip is configurable to an applied second configuration in which said other of said hook portion and said catch portion of said retainer is disposed about or adjacent said one of said hook portion and said catch portion of said first arm portion,

(iii) said retainer is adapted to plastically deform from its orientation in said

original first configuration to its orientation in said applied second configuration, and

(iv) said first and second arm portions and said bridge portion are adapted to maintain a generally U-shaped configuration in which said first and second arm portions are substantially parallel to each other in said original first configuration and while said retainer is plastically deformed between said original first and second applied configurations before, during, and after application of said clip to tissue of the patient.

6. (cancelled)

7. (currently amended) A surgical clip according to claim 5, wherein:

said other of said hook portion and said catch portion is adapted to engage said one of said hook portion and said catch portion in said applied second configuration ~~when said retainer is deformably bent.~~

8. (original) A surgical clip according to claim 5, wherein:

said first and second arm portions and said bridge portion are substantially stiff.

9. (currently amended) A surgical clip for use on a patient, comprising:

a) a first arm portion having a tip, ~~and a first opposite end, a first inwardly facing surface, and a first outwardly facing surface, said first arm portion defining a thickness between said first inwardly facing surface and said first outwardly facing surface, a first length between said tip and said first opposite end, and a first width which is transverse to said first length and said thickness of said first arm portion;~~

b) a second arm portion having a retainer extending therefrom beyond said tip of said first arm portion and a second opposite end, said retainer being deformably bendable and having a tip portion, ~~said second arm portion having a second inwardly facing surface, a second outwardly facing surface, and defining a thickness between said second inwardly facing surface and said second outwardly facing surface, a second length between said tip and said second opposite end, and a second width which is transverse to said second length and said thickness of said second arm portion;~~ and

c) a bridge portion connecting the first and second opposite ends ~~of said first and second arm portions.~~

wherein said clip ~~has is configurable to an a-first~~ original first configuration in which said retainer extends substantially parallel to both said first and second arm portions, and ~~a-second an~~ applied second configuration in which said tip portion of said retainer is bent around or adjacent said tip of said first arm portion,

wherein said clip is adapted to maintain a generally U-shaped configuration in which said first and second arm portions are substantially parallel to each other in said original first configuration and while said retainer is plastically deformed between said original first and applied second configurations, and

wherein, said inwardly facing surfaces of said first and second arm portions face each other and said outwardly facing surfaces of said first and second arm portions are offset from each other by no more than 2 mm.

~~said first and second arm portions and said bridge portion comprise a single continuous piece of material, and
maintain a generally U-shaped configuration in which said first and second arm portions are substantially parallel to each other before, during, and after application of said clip to tissue of the patient.~~

10-11. (cancelled)

12. (original) A surgical clip according to claim 9, wherein:

said tip portion is adapted to pierce tissue.

13. (currently amended) A surgical clip for use on a patient, comprising:

- a) a relatively stiff first arm portion having a tip and a first opposite end;
- b) a relatively stiff second arm portion having a transition portion and a second opposite end,
- c) a plastically deformable retainer portion provided at the transition portion and extending therefrom beyond said tip of said first arm portion; and
- d) a relatively stiff bridge portion connecting the first and second opposite ends, wherein said first and second arm portions and said bridge portion comprise a single continuous piece of material and maintain a generally U-shaped configuration in

which said first and second arm portions are substantially parallel to each other ~~before, during, and after~~ application of said clip to tissue of the patient and

wherein, said first arm portion defines a first inwardly facing surface and a first outwardly facing surface opposite said first inwardly facing surface, said second arm portion defines a second inwardly facing surface and a second outwardly facing surface opposite said second inwardly facing surface, and said outwardly facing surfaces of said first and second arm portions are offset from each other by no more than 2 mm.

14. (previously presented) A surgical clip according to claim 13, wherein:

said clip is made from titanium or titanium alloy.

15. (original) A surgical clip according to claim 13, wherein:

said clip is made from one of stainless steel, tantalum, platinum, a radiopaque material, a nickel-titanium alloy, a martensitic alloy, and a plastic.

16. (original) A surgical clip according to claim 13, wherein:

said retainer portion has a length substantially 0.7 to 2 times the dimension between an outside of said first arm portion and an outside of said second arm portion.

17. (currently amended) A surgical clip, comprising:

- a) a first arm portion;
- b) a second arm portion;

c) a plurality of retainer portions located on one or more of said first and second arm portions and extending therefrom; and

d) a bridge portion connecting the first and second opposite ends,

wherein said first and second arm portions and said bridge portion are made from a single continuous piece of material and maintain a generally U-shaped configuration in which said first and second arm portions are substantially parallel to each other ~~before,~~ during-~~and after~~ application of said clip to tissue of the patient.

18. (currently amended) A surgical clip according to claim 17, further comprising:

e) at least one catch portion located on one or more of said first and second arm portions and adapted to engage at least one of said retainer portions.

19. (currently amended) A surgical clip according to claim 17, wherein:

at least one of said plurality of retainer portions ~~are~~ is located on each of said first and second arm portions.

20. (original) A surgical clip according to claim 17, wherein:

each said retainer portion extending from said first arm portion extends longitudinally beyond said second arm portion, and each said retainer portion extending from said second arm portion extends longitudinally beyond said first arm portion.

21. (previously presented) A method of applying a surgical clip to tissue, comprising:

a) providing a surgical clip having,

- i) a first arm portion having a tip and a first opposite end,
 - ii) a second arm portion having a retainer extending therefrom in substantially the same direction as said second arm and a second opposite end, and
 - iii) a bridge portion connecting the first and second opposite ends,
- wherein, said first and second arm portions and said bridge portion comprise a single continuous piece of material and maintain a generally U-shaped configuration in which said first and second arm portions are substantially parallel to each other before, during, and after application of said clip to tissue of the patient;
- b) providing the first and second arm portions about the tissue; and
 - c) folding the retainer about the tip of the first arm.

22. (original) A method according to claim 21, further comprising:

- d) prior to providing the first and second arm portions about the tissue, compressing the tissue.

23. (original) A method according to claim 22, further comprising:

- e) providing a clip applier device, wherein said compressing the tissue is performed by said clip applier device.

24. (original) A method according to claim 21, further comprising:

- d) piercing the retainer through the tissue.

25. (original) A method according to claim 21, wherein:

the tissue is non-tubular.

26. (original) A method according to claim 21, wherein:

said folding the retainer includes plastically deformably bending said retainer substantially 180°.